

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An X-ray CT apparatus, comprising:

an X-ray irradiation source configured to irradiate X-rays to a volume of interest;

an X-ray detector including a plurality of detection element segments configured to detect the X-rays penetrated through the volume of interest;

a collimator configured to create an opening that is movable at least in a slice direction and a channel direction;

an image processing part configured to generate volume data from the detected X-rays and to extract a portion of the volume data corresponding to the volume of interest;

a controller configured to set the opening of the collimator to a first opening size to irradiate a first scanning range and configured to perform a first scan of the first scanning range, and to set the opening of the collimator in the channel direction to a second opening size to irradiate a second scanning range corresponding to the portion of the volume data and configured to perform a second scan of the second scanning range such that the second scanning range receives an amount of X-ray greater than an area external to the second scanning range area; and

a reconstruction part configured to reconstruct image data based on data collected by the second scan including data from the second scanning range area and external data from an the area within the first scanning range but external to the second scanning range area.

Claim 2 (Original): The X-ray CT apparatus according to claim 1, wherein the at least one controller is configured to set the opening of the collimator to a first opening size that is wider than the second opening size and to perform a first scan.

Claim 3 (Original): The X-ray CT apparatus according to claim 2, wherein the amount of the X-rays used on the first scan is lower than an amount of the X-rays used in the second scan.

Claim 4 (Original): The X-ray CT apparatus according to claim 2, wherein: the first scan includes a helical scan, the second scan includes a helical scan, and a helical pitch of the second scan is shorter than a helical pitch of the first scan.

Claim 5 (Original): The X-ray CT apparatus according to claim 2, wherein a number of the plurality of detection element segments used in the second scan is fewer than a number of the plurality of detection element segments used in the first scan.

Claim 6 (Previously Presented): The X-ray CT apparatus according to claim 2, wherein the reconstruction part compensates external data of the second scanning range with data collected by the first scan.

Claim 7 (Original): The X-ray CT apparatus according to claim 6, wherein the external data is collected during the second scan.

Claim 8 (Original): The X-ray CT apparatus according to claim 6, wherein the external data is collected based on an X-ray detected by detection element segments other than detection element segments used in the second scan.

Claims 9-21 (Canceled).

Claim 22 (Currently Amended): An X-ray CT apparatus, comprising:

- an X-ray irradiation source configured to irradiate X-rays to a volume of interest;
- an X-ray detector including a plurality of detection element segments configured to detect the X-rays penetrated through the volume of interest;
- a collimator configured to create an opening that is movable at least in a slice direction and a channel direction;
- an image processing part configured to generate volume data from the detected X-rays and to extract a portion of the volume data corresponding to the volume of interest;
- a controller configured to set the opening of the collimator to a first opening size to irradiate a first scanning range and configured to perform a first scan of the first scanning range, and to set the opening of the collimator in the channel direction to a second opening size to irradiate a second scanning range corresponding to the portion of the volume data and configured to perform a second scan of the second scanning range; and
- a reconstruction part configured to reconstruct image data based on data collected by the second scan and external data ~~of~~ in the first scanning range but outside the second scanning range ~~collected by the first scan.~~